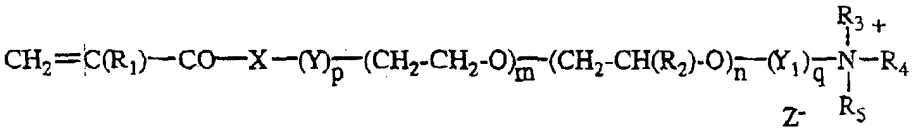
WHAT IS CLAIMED IS:

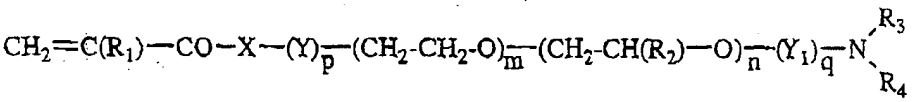
1. A composition for the oxidation dyeing of keratin fibers comprising, in a medium suitable for dyeing, at least one oxidation dye in the form of a sulphate salt, and at least one cationic poly(vinyllactam) polymer comprising:

-a) at least one monomer chosen from vinyllactams and alkylvinyllactams; and

-b) at least one monomer chosen from the following formulas (Ia) and (Ib):



(Ia)



(Ib)

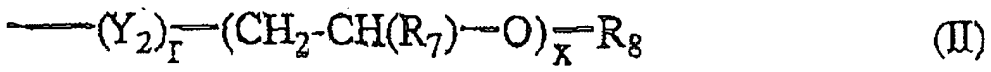
in which:

X is chosen from oxygen atoms and NR_6 radicals;

R_1 and R_6, which may be identical or different, are chosen from hydrogen atoms, linear C_1-C_5 alkyl radicals, and branched C_1-C_5 alkyl radicals;

R_2 is chosen from linear C_1-C_4 alkyl radicals and branched C_1-C_4 alkyl radicals;

R_3, R_4 and R_5, which may be identical or different, are chosen from hydrogen atoms, linear C_1-C_{30} alkyl radicals, branched C_1-C_{30} alkyl radicals, and radicals of formula (II):



(II)

in which:

Y, Y_1 and Y_2 , which may be identical or different, are chosen from linear C_2-C_{16} alkylene radicals and branched C_2-C_{16} alkylene radicals;

R_7 is chosen from hydrogen atoms, linear C_1-C_4 alkyl radicals, branched C_1-C_4 alkyl radicals, linear C_1-C_4 hydroxyalkyl radical, and branched C_1-C_4 hydroxyalkyl radicals;

R_8 is chosen from hydrogen atoms, linear C_1-C_{30} alkyl radicals, and branched C_1-C_{30} alkyl radicals;

p, q and r which may be identical or different, are chosen from 0 and 1;

m and n, which may be identical or different, are chosen from integers ranging from 0 to 100;

x is an integer ranging from 1 to 100,

Z^- is chosen from organic acid anions and inorganic acid anions,

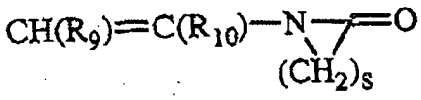
with the provisos that:

- at least one of R_3, R_4, R_5 and R_8 is chosen from linear C_9-C_{30} alkyl radicals and branched C_9-C_{30} alkyl radicals,
- if either m or n is different from 0, then q is 1,
- if either m or n is 0, then either p or q is 0.

2. The composition according to Claim 1, wherein the keratin fibers are hair.

3. The composition according to Claim 1, wherein the oxidation dye in the form of a sulphate salt is present in a concentration of at least 2% by weight relative to the total weight of the composition.

4. The composition according to Claim 1 , wherein the at least one monomer chosen from vinyllactams and alkylvinyllactams is a monomer of formula (III):



(III)

in which:

s is an integer ranging from 3 to 6;

R_9 is chosen from hydrogen atoms and C_1-C_5 alkyl radicals;

R_{10} is chosen from hydrogen atoms and C_1-C_5 alkyl radicals;

with the proviso that at least one of R_9 and R_{10} is a hydrogen atom.

5. The composition according to Claim 4, wherein the monomer of formula (III) is vinylpyrrolidone.

6. The composition according to Claim 1, wherein R_3, R_4 and R_5, which may be identical or different, are chosen from hydrogen atoms, linear C_1-C_{30} alkyl radicals, and branched C_1-C_{30} alkyl radicals.

7. The composition according to Claim 1, wherein the at least one monomer chosen from the formulas (Ia) and (Ib) is a monomer of formula (Ia).

8. The composition according to Claim 7, wherein in the formula (Ia), m and n are 0.

9. The composition according to Claim 1, wherein, in the monomer of formula (Ia), Z^- is chosen from halide ions, phosphate ions, methosulphate ions, and tosylate ions.

10. The composition according to Claim 1, wherein the at least one cationic poly(vinyllactam) polymer further comprises at least one additional monomer chosen from cationic monomers and nonionic monomers.

11. The composition according to Claim 10, wherein the at least one cationic poly(vinyllactam) polymer is a terpolymer comprising:

a) at least one monomer (a) of formula (III);

b) at least one monomer (b) of formula (Ia) in which p is 1, q is 0, R_3 and R_4, which may be identical or different, are chosen from hydrogen atoms and C_1-C_5 alkyl radicals, and R_5 is a C_9-C_{24} alkyl radical; and

c) at least one monomer (c) of formula (Ib) in which R_3 and R_4, which may be identical or different, are chosen from hydrogen atoms and C_1-C_5 alkyl radicals.

12. The composition according to Claim 11, wherein the terpolymer comprises 40% to 95% of the at least one monomer (a), 0.25% to 50% of the at least one monomer (b), and 0.1% to 55% of the at least one monomer (c), by weight relative to the total weight of the terpolymer.

13. The composition according to Claim 1, wherein the at least one cationic poly(vinyllactam) polymer is chosen from the following terpolymers:

vinylpyrrolidone/dimethylaminopropylmethacrylamide/dodecyldimethylmethacryl-amidopropylammonium tosylate,

vinylpyrrolidone/dimethylaminopropylmethacrylamide/cocoyldimethyl-methacrylamidopropylammonium tosylate,

vinylpyrrolidone/dimethylaminopropylmethacrylamide/lauryldimethylmethacrylamido-propylammonium tosylate, and

vinylpyrrolidone/dimethylaminopropylmethacrylamide/lauryldimethylmethacrylamido-propylammonium chloride.

14. The composition according to Claim 1, wherein the weight-average molecular mass of the at least one cationic poly(vinyllactam) ranges from 500 to 20,000,000.

15. The composition according to Claim 14, wherein the weight-average molecular mass of the at least one cationic poly(vinyllactam) ranges from 200,000 to 2,000,000.

16. The composition according to Claim 15, wherein the weight-average molecular mass of the at least one cationic poly(vinyllactam) ranges from 400,000 to 8,000,000.

17. The composition according to Claim 1, wherein the at least one cationic poly(vinyllactam) is present in an amount ranging from 0.01% to 10% by weight relative to the total weight of the composition.

18. The composition according to Claim 17, wherein the at least one cationic poly(vinyllactam) is present in an amount ranging from 0.1% to 5% by weight relative to the total weight of the composition.

19. The composition according to Claim 1, wherein the at least one oxidation dye in the form of a sulphate salt is chosen from

sulphate salts of oxidation bases chosen from para-phenylenediamines, double bases, ortho-aminophenols, para-aminophenols, and heterocyclic bases, and

sulphate salts of couplers chosen from meta-aminophenols, meta-phenylenediamines, meta-diphenols, naphthols, and heterocylic couplers.

20. The composition according to Claim 19, wherein the at least one oxidation dye in the form of a sulphate salt is chosen from para-toluenediamine sulphates, N,N-bis(β-hydroxyethyl)-para-phenylenediamine sulphates, 2-(β-hydroxyethyl)-para-phenylenediamine sulphates, N-methyl-para-aminophenol hemisulphates, 1-(β-hydroxy-ethyl)-4,5-diaminopyrazole sulphates, and 4-(β-hydroxyethyl)amino-2-aminoanisole sulphates.

21. The composition according to Claim 1, wherein the at least one oxidation dye in the form of a sulphate salt is present in an amount ranging from 2% to 25% by weight relative to the total weight of the composition.

22. The composition according to Claim 21, wherein the at least one oxidation dye in the form of a sulphate salt is present in an amount ranging from 2.25% to 15% by weight relative to the total weight of the composition.

23. The composition according to Claim 22, wherein the at least one oxidation dye in the form of a sulphate salt is present in an amount ranging from 2.5% to 10% by weight relative to the total weight of the composition.

24. The composition according to Claim 1, further comprising at least one additional oxidation dye, other than the at least one oxidation dye in the form of a sulphate salt, chosen from at least one oxidation base and at least one coupler.

25. The composition according to Claim 24, wherein the at least one additional oxidation dye is at least one oxidation base.

26. The composition according to Claim 24, wherein the at least one oxidation base is chosen from para-phenylenediamines, double bases, ortho-aminophenols, para-aminophenols, heterocyclic bases, and their acid addition salts other than sulphates.

27. The composition according to Claim 24, wherein the at least one additional oxidation base is present in an amount ranging from 0.0005% to 20% by weight relative to the total weight of the composition.

28. The composition according to Claim 24, wherein the at least one coupler is chosen from meta-phenylenediamines, meta-aminophenols, meta-diphenols, heterocyclic couplers, and their acid addition salts other than sulphates.

29. The composition according to Claim 24, wherein the at least one coupler is present in an amount ranging from 0.0001% to 20% by weight relative to the total weight of the composition.

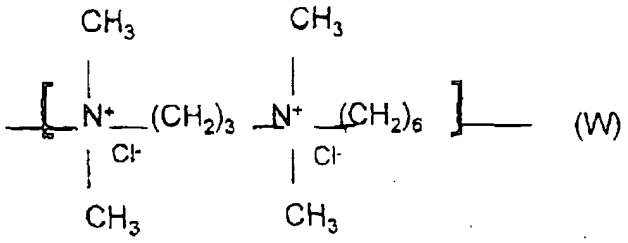
30. The composition according to Claim 26, wherein the acid addition salts are chosen from hydrochlorides, hydrobromides, tartrates, lactates, and acetates.

31. The composition according to Claim 28, wherein the acid addition salts are chosen from hydrochlorides, hydrobromides, tartrates, lactates, and acetates.

32. The composition according to Claim 1, further comprising at least one direct dye.

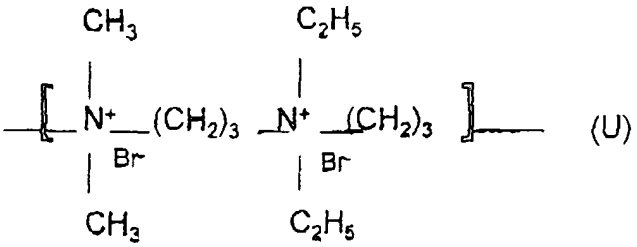
33. The composition according to Claim 1, further comprising at least one polymer chosen from amphoteric polymers and cationic polymers different from said at least one cationic poly(vinyllactam).

34. The composition according to Claim 33, wherein the cationic polymer is a quaternary polyammonium comprising recurring units of the formula (W):



(W)

35. The composition according to Claim 33, wherein the cationic polymer is a quaternary polyammonium comprising recurring units of the formula (U):



(U)

36. The composition according to Claim 33, wherein the amphoteric polymer is a copolymer comprising monomers of at least one acrylic acid and at least one salt of dimethyldiallylammonium.

37. The composition according to Claim 33, wherein the at least one polymer is present in an amount ranging from 0.01% to 10% by weight relative to the total weight of the composition.

38. The composition according to Claim 37, wherein the at least one polymer is present in an amount ranging from 0.05% to 5%, by weight relative to the total weight of the composition.

39. The composition according to Claim 38, wherein the wherein the at least one polymer is present in an amount ranging from 0.1% to 3% by weight relative to the total weight of the composition.

40. The composition according to Claim 1, further comprising at least one surfactant chosen from anionic, cationic, nonionic, and amphoteric surfactants.

41. The composition according to Claim 40, wherein the at least one surfactant is present in an amount ranging from 0.01% to 40% by weight relative to the total weight of the composition.

42. The composition according to Claim 41, wherein the at least one surfactant is present in an amount ranging from 0.5% to 30% by weight relative to the total weight of the composition.

43. The composition according to Claim 1, further comprising at least one thickening agent.

44. The composition according to Claim 1, further comprising at least one reducing agent, in quantities ranging from 0.05% to 3% by weight relative to the total weight of the composition.

45. The composition according to Claim 1, further comprising at least one oxidizing agent and wherein the composition is ready for use.

46. The composition according to Claim 45, wherein the at least one oxidizing agent is chosen from hydrogen peroxide, urea peroxide, alkali metal bromates, alkali metal ferricyanides, persalts, and oxidation-reduction enzymes optionally with the respective donor or cofactor.

47. The composition according to Claim 46, wherein the at least one oxidizing agent is hydrogen peroxide.

48. The composition according to Claim 47, wherein the at least one oxidizing agent is a hydrogen peroxide solution whose titre ranges from 1 to 40 volumes.

49. The composition according to Claim 45, wherein the pH ranges from 4 to 11.

50. A method for dyeing keratin fibers comprising

applying to the fibers at least one composition A comprising, in a medium suitable for dyeing, at least one oxidation dye in the form of a sulphate salt,

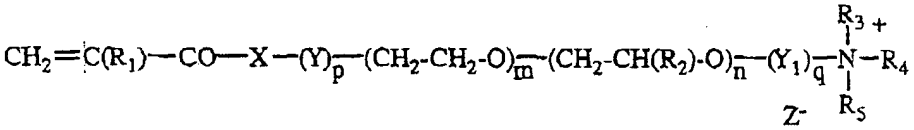
developing the color at a pH chosen from alkaline, neutral and acidic with the aid of

a composition B comprising at least one oxidizing agent, wherein composition B is mixed with composition A at the time of use, or applied sequentially to the composition A without intermediate rinsing,

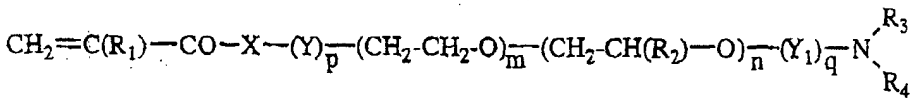
wherein at least one cationic poly(vinyllactam) is present in the composition A, in the composition B or in both compositions A and B, said at least one cationic poly(vinyllactam) comprising:

-a) at least one monomer chosen from vinyllactams and alkylvinyllactams; and

-b) at least one monomer chosen from the following formulas (Ia) and (Ib):



(Ia)



(Ib)

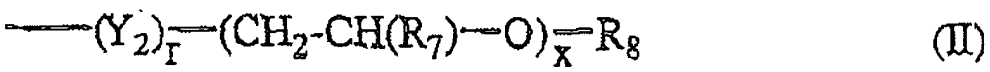
in which:

X is chosen from oxygen atoms and NR_6 radicals;

R_1 and R_6, which may be identical or different, are chosen from hydrogen atoms, linear C_1-C_5 alkyl radicals, and branched C_1-C_5 alkyl radicals;

R_2 is chosen from linear C_1-C_4 alkyl radicals and branched C_1-C_4 alkyl radicals;

R_3, R_4 and R_5, which may be identical or different, are chosen from hydrogen atoms, linear C_1-C_{30} alkyl radicals, branched C_1-C_{30} alkyl radicals, and radicals of formula (II):



(II)

in which:

Y, Y_1 and Y_2 , which may be identical or different, are chosen from linear C_2-C_{16} alkylene radicals and branched C_2-C_{16} alkylene radicals;

R_7 is chosen from hydrogen atoms, linear C_1-C_4 alkyl radicals, branched C_1-C_4 alkyl radicals, linear C_1-C_4 hydroxyalkyl radical, and branched C_1-C_4 hydroxyalkyl radicals;

R_8 is chosen from hydrogen atoms, linear C_1-C_{30} alkyl radicals, and branched C_1-C_{30} alkyl radicals;

p, q and r which may be identical or different, are chosen from 0 and 1;

m and n, which may be identical or different, are chosen from integers ranging from 0 to 100;

x is an integer ranging from 1 to 100,

Z^- is chosen from organic acid anions and inorganic acid anions,

with the provisos that:

- at least one of R_3, R_4, R_5 and R_8 is chosen from linear C_9-C_{30} alkyl radicals and branched C_9-C_{30} alkyl radicals,
- if either m or n is different from 0, then q is 1,
- if either m or n is 0, then either p or q is 0.

51. The method according to Claim 50, wherein the keratin fibers are hair.

52. The method according to Claim 50, wherein the at least one oxidation dye in the form of a sulphate salt is present in a concentration of at least 2% by weight relative to the total weight of the composition.

53. The method according to Claim 50, further comprising applying a ready to use composition, prepared at the time of use from the compositions A and B, to the keratin fibers, allowing it to act for an exposure time ranging from 1 to 60 minutes, rinsing the fibers, and then optionally washing the fibers with shampoo, rinsing the fibers again, and drying the fibers.

54. A two-compartment device for dyeing keratin fibers comprising

a first compartment comprises a composition A1 comprising, in a medium suitable for dyeing, at least one oxidation dye in the form of a sulphate salt, and

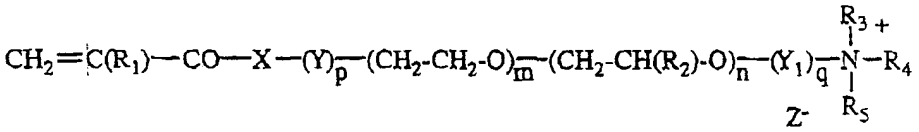
a second compartment comprises a composition B1 comprising, in a medium suitable for dyeing, at least one oxidizing agent, and

wherein at least one cationic poly(vinyllactam) is present in the composition A1, in the composition B1 or in both compositions A1 and B1, said at least one cationic poly(vinyllactam) comprising:

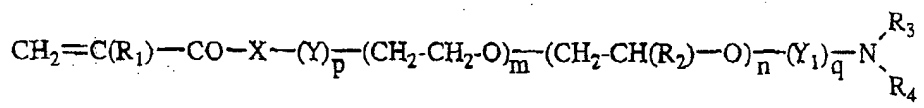
-a) at least one monomer chosen from vinyllactams and alkylvinyllactams;

and

-b) at least one monomer chosen from the following formulas (Ia) and (Ib):



(Ia)



(Ib)

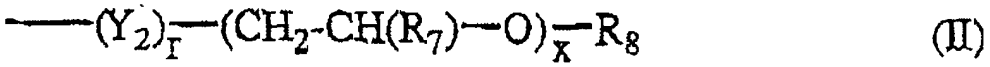
in which:

X is chosen from oxygen atoms and NR_6 radicals;

R_1 and R_6, which may be identical or different, are chosen from hydrogen atoms, linear C_1-C_5 alkyl radicals, and branched C_1-C_5 alkyl radicals;

R_2 is chosen from linear C_1-C_4 alkyl radicals and branched C_1-C_4 alkyl radicals;

R_3, R_4 and R_5, which may be identical or different, are chosen from hydrogen atoms, linear C_1-C_{30} alkyl radicals, branched C_1-C_{30} alkyl radicals, and radicals of formula (II):



(II)

in which:

Y, Y_1 and Y_2 , which may be identical or different, are chosen from linear C_2-C_{16} alkylene radicals and branched C_2-C_{16} alkylene radicals;

R_7 is chosen from hydrogen atoms, linear C_1-C_4 alkyl radicals, branched C_1-C_4 alkyl radicals, linear C_1-C_4 hydroxyalkyl radical, and branched C_1-C_4 hydroxyalkyl radicals;

R_8 is chosen from hydrogen atoms, linear C_1-C_{30} alkyl radicals, and branched C_1-C_{30} alkyl radicals;

p, q and r which may be identical or different, are chosen from 0 and 1;

m and n, which may be identical or different, are chosen from integers ranging from 0 to 100;

x is an integer ranging from 1 to 100,

Z^- is chosen from organic acid anions and inorganic acid anions,

with the provisos that:

- at least one of R_3, R_4, R_5 and R_8 is chosen from linear C_9-C_{30} alkyl radicals and branched C_9-C_{30} alkyl radicals,
- if either m or n is different from 0, then q is 1,
- if either m or n is 0, then either p or q is 0.

55. The two-compartment device according to Claim 54, wherein the keratin fibers are hair.

56. The two-compartment device according to Claim 54, wherein the at least one oxidation dye in the form of a sulphate salt is present in a concentration of at least 2% by weight relative to the total weight of the composition.

57. A three-compartment device for dyeing keratin fibers, comprising

a first compartment comprises a composition A2 comprising, in a medium suitable for dying, at least one oxidation dye in the form of a sulphate salt,

a second compartment comprising a composition B2 comprising, in a medium suitable for dyeing, at least one oxidizing agent, and

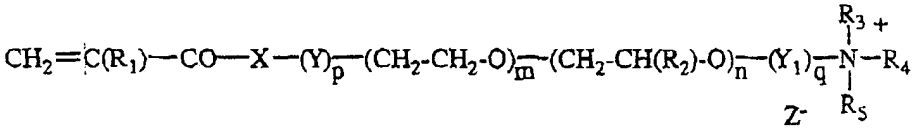
a third compartment comprising a composition C comprising, in a medium suitable for dyeing, at least one cationic poly(vinyllactam),

it being possible for the composition A2, the composition B2, or both compositions A2 and B2 to also comprise said at least one cationic poly(vinyllactam),

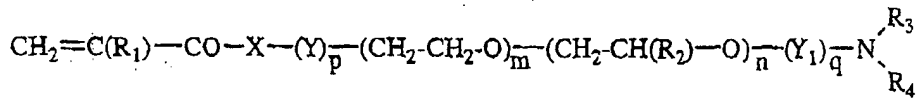
wherein said at least one cationic poly(vinyllactam) comprises:

-a) at least one monomer chosen from vinyllactams and alkylvinyllactams; and

-b) at least one monomer chosen from the following formulas (Ia) and (Ib):



(Ia)



(Ib)

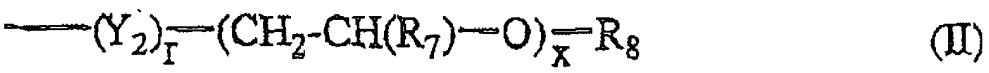
in which:

X is chosen from oxygen atoms and NR_6 radicals;

R_1 and R_6, which may be identical or different, are chosen from hydrogen atoms, linear C_1-C_5 alkyl radicals, and branched C_1-C_5 alkyl radicals;

R_2 is chosen from linear C_1-C_4 alkyl radicals and branched C_1-C_4 alkyl radicals;

R_3, R_4 and R_5, which may be identical or different, are chosen from hydrogen atoms, linear C_1-C_{30} alkyl radicals, branched C_1-C_{30} alkyl radicals, and radicals of formula (II):



(II)

in which:

Y, Y_1 and Y_2 , which may be identical or different, are chosen from linear C_2-C_{16} alkylene radicals and branched C_2-C_{16} alkylene radicals;

R_7 is chosen from hydrogen atoms, linear C_1-C_4 alkyl radicals, branched C_1-C_4 alkyl radicals, linear C_1-C_4 hydroxyalkyl radical, and branched C_1-C_4 hydroxyalkyl radicals;

R_8 is chosen from hydrogen atoms, linear C_1-C_{30} alkyl radicals, and branched C_1-C_{30} alkyl radicals;

p, q and r which may be identical or different, are chosen from 0 and 1;

m and n, which may be identical or different, are chosen from integers ranging from 0 to 100;

x is an integer ranging from 1 to 100,

Z^- is chosen from organic acid anions and inorganic acid anions,

with the provisos that:

- at least one of R_3, R_4, R_5 and R_8 is chosen from linear C_9-C_{30} alkyl radicals and branched C_9-C_{30} alkyl radicals,
- if either m or n is different from 0, then q is 1,
- if either m or n is 0, then either p or q is 0.

58. The three-compartment device according to Claim 57, wherein the keratin fibers are hair.

59. The three-compartment device according to Claim 57, wherein the at least one oxidation dye in the form of a sulphate salt is present in a concentration of at least 2% by weight relative to the total weight of the composition.